

TABLE 1-continued

NUTRABURGER TM SENSORY TESTS									
TOTAL	50 - 53	50 - 44	22 - 26	50 - 50	43 - 42	23 - 24	46 - 46	46 - 44	19 - 18
PREPARED WITH ADDITION OF SALT									
TESTER	GRILLED PATTY NO.			20 MINUTES AFTER GRILLING PATTY NO.			40 MINUTES AFTER GRILLING PATTY NO.		
	1	2	3	1	2	3	1	2	3
	J F	J F	J F	J F	J F	J F	J F	J F	J F
1 (Female)	9 - 8	10 - 10	8 - 7	9 - 10	9 - 8	6 - 5	9 - 9	7 - 7	5 - 5
2 (Male)	9 - 9	9 - 9	7 - 7	9 - 10	8 - 8	6 - 5	9 - 9	8 - 7	5 - 4
3 (Male)	9 - 9	10 - 10	6 - 6	9 - 9	8 - 7	6 - 5	8 - 8	6 - 6	3 - 4
4 (Female)	8 - 8	9 - 9	4 - 5	9 - 9	8 - 7	3 - 4	8 - 9	7 - 8	3 - 4
5 (Female)	9 - 9	9 - 9	4 - 4	9 - 9	7 - 7	2 - 3	8 - 8	6 - 7	1 - 1
6 (Male)	10 - 9	9 - 9	4 - 5	8 - 8	6 - 7	2 - 2	7 - 6	6 - 6	4 - 2
TOTAL	54 - 52	56 - 56	33 - 34	53 - 55	46 - 48	24 - 24	49 - 49	40 - 41	21 - 11

Sensory Rating: 1 to 10 (1-2: would not eat; 3-4: poor; 5-7: average; 7-10: good, very good, excellent)

Testers: 3 males; 3 females. SLTD = Salted; N/SLTD = Not salted; J = Juiciness; F = Flavor

TESTERS' COMMENTS

NUTRABURGER TM: Very good, better flavor, higher than sample 1 or 3, maintained good juiciness; best sample; tastes juicy; better at holding juiciness; sample 1 and 2 chewed the same and were better than 3.

HAMBURGER, REG.: O.K. in juiciness and flavor, lost flavor but juiciness stayed O.K.; greasy at first; good flavor; similar at start to sample 2 but not as good at holding juiciness of flavor; excellent hot; lost flavor and juiciness quickly; appeared to be cooked less (more raw).

HAMBURGER, LEAN: Awful; dry, crumbly, greasy, low flavor; inferior; O.K. when hot, bad, touch, dry.

*5.7% OVER REGULAR HAMBURGER; 1.7% OVER LEAN HAMBURGER.

**NUTRABURGER TM: Approximately $\frac{1}{2}$ the cholesterol. NUTRABURGER TM + OLESTRA TM: approximately $\frac{1}{2}$ the cholesterol and less than $\frac{1}{2}$ the calories.

***No. 1 = NUTRABURGER TM; No. 2 = regular hamburger; No. 3 = lean hamburger

The advantages of the tested NUTRABURGER over regular and lean hamburger in terms of reduced cholesterol and calorie content and less shrinkage is obvious. Also especially significant are the testers' findings that the freshly cooked NUTRABURGER product was equal or superior to regular hamburger and far superior to lean hamburger and that, after standing for an equal length of time, the NUTRABURGER product was far superior to both regular and lean hamburger in these respects.

While the foregoing discussion has centered around the making of low cholesterol (and/or saturated fat) replacements for sausage and hamburger to the extent that it is concerned with artificial adipose, it is to be understood that this is not intended to limit the scope of the invention as defined in the appended claims and that there are many other meat products which can be similarly and advantageously replaced by combining with a low calorie meat an artificial adipose of the character disclosed herein.

For example, the artificial adiposes of the present invention will to some considerable extent retain their structural integrity as they are heated although they will become transparent as natural adipose does when it is heated. This is a property which can be encouraged to make an analogue of salt pork with a reduced concentration of cholesterol and/or saturated fat. Artificial adiposes as described herein can also be combined with lean pork to produce a bacon replacer which has the taste, texture, aroma, and mouth feel of conventional bacon—unlike currently available bacon replacers—but, like other of the products disclosed herein, may have a significantly reduced concentration of cholesterol and/or saturated fats.

The invention may be embodied in still other forms without departing from the spirit or essential characteristics of the invention. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description; and all changes which come

within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

We claim:

1. An artificial adipose which comprises: a cross-linkable, fibrinogen- and albumin-containing protein constituent, a cross-linkable saccharide binder, and an edible oil or fat, said protein constituents and said binder being so cross-linked as to provide matrix-forming copolymeric networks.

2. An artificial adipose as defined in claim 1 which contains an edible oil or a fat that: (a) is free, or has a low concentration, of cholesterol, and/or (b) is unsaturated or has a low degree of saturation.

3. An artificial adipose as defined in claim 1 which contains blood plasma.

4. An artificial adipose as defined in claim 1 which includes the residue of a gelling or setting agent.

5. An artificial adipose as defined in claim 1 which further includes gluten.

6. An artificial adipose as defined in claim 1 which includes lecithin in an amount effective to promote the tendency of the artificial adipose to resemble a natural counterpart.

7. An artificial adipose as defined in claim 1 which has the following constituents and proportions thereof.

Ingredients:	Weight Percent
Sarcoplasmic protein(s)	3-20
Oil/fat	50-98
Binder	1-20

8. An artificial adipose as defined in claim 1 which comprises:

Ingredient	Range
Hydrogenated soya oil	80-200 gms
Coconut oil	80-200 gms
Blood plasma	5-20 gms
Sodium alginate	3.5-10 gms
Tapioca flour	6-20 gms